

6. Embryo of *Gillia*; forms assumed by fore part of foot.
7. Shell of *Gillia atilis*, top view showing rapid enlargement of whorl.
8. Shell of *Gillia* viewed from the front.
9. Egg of *Amnicola* (? *oneida*) on leaf of *Vallisneria*.
10. Egg of *Amnicola* (? *bakeriana*).

PLEISTOCENE FOSSILS OF MAGDALENA BAY, LOWER CALIFORNIA,
COLLECTED BY CHARLES RUSSELL ORCUTT.

BY WILLIAM HEALEY DALL.

In a recent visit to Magdalena Bay, Mr. Orcutt obtained a series of Pleistocene fossils from a deposit on Magdalena Island which prove very interesting. A number of the species average larger than the recent forms of the same name, others, like *Strombus granulatus*, are uniformly smaller. Many of the species have not been reported from so far north in the recent state, and on the whole the assembly has a more topical aspect than that of the recent fauna. One or two of the largest forms appear to be new. The list follows:

Bullaria aspersa A. Adams.	Vasum caestus Broderip.
Terebra armillata Hinds.	Oliva incrassata Solander.
Conus fergusonii Sowerby.	Olivella dama Mawe.
Conus vittatus Hwass.	Phyllonotus stearnsii Dall, n.
Conus, cf. ximenes Gray.	sp.
Conus purpurascens Broderip.	Phyllonotus bicolor Valenciennes.
Conus lucidus Mawe.	Phyllonotus princeps Broderip.
Conus tornatus Broderip.	Solenosteira anomala Reeve.
Surecula maculosa Sowerby.	Patellipurpura patula Lamarck.
Crassispira nigerrima Sowerby.	Thais biserialis Blainville.
Cancellaria obesa Sowerby.	Thais kiosquiformis Duclos.
Cancellaria candida Sowerby.	Macron aethiops Reeve.
Cancellaria cassidiformis Sowerby.	Arcularia tegula Reeve.
Lyria (Enaeta) cumingi Broderip.	Strombina dorsata Sowerby.

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| Strombina solidula Reeve. | Parvilucina approximata Dall. |
| Strombus gracilior Sowerby. | Phacoides lamprus Dall. |
| Strombus granulatus Wood. | Phacoides lingualis Carpenter. |
| Cypraea annettae Dall. | Diplodonta (Felaniella) sericata Reeve. |
| Trivia radians Lamarck. | Diplodonta orbella Gould. |
| Cerithium gemmatum Hinds. | Divaricella eburnea Reeve. |
| Turritella nodulosa King. | Aligena cerittensis Arnold. |
| Neverita recluziana Deshayes, small variety. | Dosinia ponderosa Gray. |
| Polinices uber Valenciennes. | Macrocallista squalida Sowerby. |
| Crepidula excavata Broderip. | Macrocallista orcutti n. sp. |
| Crucibulum imbricatum Sowerby. | Chione succincta Valenciennes. |
| Crucibulum spinosum Sowerby. | Chione undatella Sowerby. |
| Fissurella volcano Reeve. | Anomalocardia rugosa Sowerby. |
| Fissuridea murina Carpenter. | Cyathodonta undulata Conrad. |
| Astraea undosa Wood. | Cryptomya californica Conrad. |
| — | Schizothaerus nuttallii Conrad, var. capax Gould. |
| Ostrea veatchi Gabb. | Panope generosa var. taeniata n. var. |
| Pecten circularis Sowerby. | |
| Cardium biangulatum Sowerby. | |
| Cardium procerum Sowerby. | |
| Metis alta Conrad. | |
| Tagelus violaceus Carpenter. | |

Macrocallista orcutti n. sp.

Shell ovate-triangular, convex, inequilateral, solid and very heavy, six inches long, the beaks two and one-half inches behind the anterior end, incurved, prosocoelous, having neither lunule nor escutcheon; the surface smooth except for slight incremental undulations, irregular, but stronger toward the ends and near the base, where they are sometimes supplemented by fine striations; anterior slope more abrupt than the posterior, both ends rounded, the posterior moderately attenuated, the base roundly arcuate; hinge of the type of that of *M. squalida* but more concentrated, the posterior car-

dinal more than half as long as the nymphal callosity; muscular scars large, the anterior deeply impressed; there is no subumbonal cavity; pallial sinus short, extending forward less than half the length of the shell, acute, subtriangular; margin of the valves smooth. Length of shell 158; height 135+; diameter of right valve 40 mm.

A single slightly imperfect right valve was obtained on Magdalena Island. Than its nearest recent relative, *M. squalida*, it is larger, more rounded, much heavier, with a less uniformly smooth surface, and more concentrated hinge. In *M. squalida* the right posterior cardinal is less than one-third the length of the nymph, and the pallial sinus somewhat more than half as long as the shell. The type specimen is in the National Museum collection. It seems to be the heaviest Venerid of the coast except *Tivela stultorum*.

Panope (*generosa* Gould var.?) *taeniata* n. sp.?

Shell in a general way resembling *P. generosa*, from which it is best distinguished by a differential diagnosis. The shell of *taeniata* is more arcuate, more attenuated behind, less squarely truncate, the valve more inflated, with more of a cavity under the beak, with a shorter ligament, and with the posterior adductor scar nearly circular, while in *generosa* it forms an elongate oval; the anterior scar is also larger and wider than in *generosa*. Length of shell six and three-quarter inches, height three and seven-eighths, diameter of left valve an inch and a quarter. Compared with *generosa* the dimensions are as follows in millimeters.

M. taeniata, lon. 170, alt. 103, diam. 60, truncation 65.

M. generosa, lon. 172, alt. 97, diam. 48, truncation 78.

The left valve of *taeniata*, from which this description is drawn up, has a narrow rounded low rib extending from near the beak to the lower margin near the base of the truncation, but none of the specimens of *generosa* show anything of the kind. This, however, may be an individual mutation and requires confirmation by other specimens. The valve described was found on the beach, probably washed out of the deposit from which the fossils were obtained.

Murex (Phyllonotus) stearnsii new species.

Shell small, white, tinted with reddish brown on the varices of which there are eight, thick and wide, on the early whorls and seven on the last whorl; nucleus small, smooth, of two whorls, followed by about five subsequent whorls; shoulder high, rounded, the space between it and the suture pit-like between the varices; spiral sculpture of nine or ten low, strong ridges, incurved and guttered on the summit of the varices, with an intercalary series of smaller cords, the whole sharply spirally threaded and crossed by fine, rather sharp axial threads between the cords; aperture oval, hardly lirate, canal short, broad, almost closed, the base of the whorl somewhat constricted. Height 50, diameter of shell 35, length of aperture and canal 33 mm.

Fossil on Magdalena Island. Recent from Acapulco to Manta, Ecuador.

This is nearest to *P. humilis* Broderip, of Panama, which has recurved spines, is generally more compact, and when adult much smaller.

LIST OF SHELLS FROM ANGEL AND TIBURON ISLANDS, GULF OF CALIFORNIA, WITH DESCRIPTION OF A NEW SPECIES.

Collected by L. C. Decius and A. D. Fyfe, November, 1917.

BY I. S. OLDROYD.

ACANTHINA ANGELICA, n. sp.

Shell elongate with sloping shoulders, surface with heavy revolving striæ crossed by fine longitudinal ribs, which overlap forming a net-work; color grayish with markings of chocolate-brown here and there. Whorls five; aperture purplish within; columella straight, same color as aperture; outer lip thickened, dentate and with a strong tooth at its base. Alt. 26, diameter 13 mm. Canal short, open. It is nearest to *Acanthina engonata* Conr., but differs from it in slope of shoulders, sculpture, and color of aperture.

Type is in the Stanford Collection.